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ABSTRACT

This study was designed to examine the community impact from introducing free alternative transportation for the drunk/drugged driver in two California cities. Baseline data were obtained in February of 1988 from 1,522 bar and nightclub patrons in Sacramento and San Jose, California. Over one-half of the respondents had consumed alcohol before completing the brief questionnaire. Respondents classified as moderate, moderate-heavy, and heavy drinkers (N=1,173) were identified as high-risk subjects. The major findings showed that drinking and driving were commonplace, as was riding with intoxicated motorists, in spite of the perceived unacceptability of this practice. The police were not seen as a particularly strong deterrent to the majority of respondents. If free alternative transportation were available for the intoxicated driver, however, 85% of respondents said they "might" to "definitely" would use the service. Heavy drinkers reported more drinking and driving and riding with drunk drivers than did those who typically consumed less alcohol. The heavy drinkers were also the most likely to report that they would use a Safe Rides service if available. Attitudes and behavior changes regarding drinking/drug use and driving in these two California communities will be closely monitored over the next two years, along with an ongoing detailed content analysis of daily newspapers from both cities to control for differential media, weather, and traffic incident effects. (NB)

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SAFE RIDES: A CONTROLLED INVESTIGATION IN TWO MAJOR CALIFORNIA CITIES

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ABSTRACT

SAFE RIDES: A CONTROLLED INVESTIGATION IN TWO MAJOR CALIFORNIA CITIES

The current investigation was designed to examine the community impact from introducing free alternative transportation for the drunk/drugged driver in Sacramento, California. Baseline data were obtained in February of 1988 from 1,522 bar and nightclub patrons in Sacramento and San Jose, California. The major findings show that drinking and driving are commonplace, as is riding with intoxicated motorists, in spite of the perceived unacceptability of this practice. The police are not seen as a particularly strong deterrent to the majority of respondents. If free alternative transportation was available for the intoxicated motorist, however, 85% of respondents say they "might" to "definitely" would use the service. Heavy drinkers report more drinking and driving and riding with drunk drivers than do those who typically consume less alcohol. However, the heavy drinkers are also most likely to use a Safe Rides service if available. Attitudes and behavior shifts regarding drinking/drug use and driving in these two California communities will be closely monitored over the next two years, along with an ongoing detailed content analysis of daily newspapers from both cities to control for differential media, weather and traffic incident effects.

SAFE RIDES: A CONTROLLED INVESTIGATION IN TWO MAJOR CALIFORNIA CITIES

INTRODUCTION

Increasing public and private attention has recently been focused on the prevention of drinking and driving (Liban, Vingilis & Blefgen, 1985; Ungerleider & Bloch, 1987). Neither the longstanding presence of dram shop laws (Colman, Krell & Mosher, 1985; Mosher, 1979; Mosher & Colman, 1985) nor the criminalization of drunk-driving have been effective in overcoming the institutionalization of driving under the influence in American society (NHTSA, 1984; Ross, 1984; Ross and Foley, 1987). Various community efforts, notably those of organized groups such as MADD or SADD, have sought to increase awareness about the severity of this problem. Countermeasures directed towards both servers and offenders have included training servers (Mosher, 1984; Saltz, 1985; 1986; 1987), introducing designated driver programs (Apsler, Harding & Goldfein, 1987), increasing the legal penalties for drinking and driving (Ross, 1984; Ungerleider & Bloch, 1988), treating the substance abuser directly (NHTSA, 1984; Bloch, Aizenberg & Davis, 1985), and preventing alcohol-impaired driving by providing alternative transportation (Harding, Apsler & Goldfein, in press). As this empirical literature indicates, few countermeasure efforts have been proven very successful in and by

themselves (NHTSA, 1984) so a multi-faceted approach seems warranted.

Probably the least explored and understood of all the alcohol countermeasures are formal programs providing alternative transportation for the drunk-driver. Spurred to some extent by media admonitions that "friends don't let friends drive drunk," and additionally by rising concerns over server liability, formal programs have evolved which mostly operate at peak holiday periods when alcohol related incidents accelerate. Safe Rides programs have been discussed in prior literature (Golden, 1983), but their effectiveness has never been empirically examined (Harding, 1988; Harding et al., in press, 1989).

Harding et al.'s (in press, 1989) recent study for the National Highway Traffic Safety Administration (NHTSA) identified 512 "Safe Rides" services nationally, but found data lacking on service utilization and effectiveness. These authors also concluded that no data have previously been gathered on public opinion of this drinking and driving countermeasure, or on the potential for widespread usage of such a service, were it available. In an effort to better understand Safe Rides issues, the present investigation was designed to examine the introduction of a unique Safe Rides service into Sacramento, California. For this purpose, a three-phase study was designed which includes: (a) an extensive baseline, and ongoing, assessment of media influences; (b) surveying a large sample of bar and nightclub patrons in experimental and control communities

at baseline and follow-up stages on attitudes and behavior about drinking or drug use and driving; (c) evaluating users of the service once it is introduced; and (d) eventually evaluating the effects of implementation on traffic statistics (e.g. DWI arrests, convictions, accidents and fatalities) while controlling for potentially confounding variables such as media and weather.

The primary emphasis of this report is to present findings from a baseline assessment of drinking and driving in Sacramento and San Jose, California. Data were also gathered on attitudes towards drinking or drug use and driving. These data included an examination of the situational contexts in which driving under the influence typically occurs, and the perceived deterrent effects of increased police efforts to curb drunk driving. Additional information was obtained about the potential for drinking or drugged drivers using several forms of alternative transportation.

In addition to assessing attitudes, prior behavior, and potential use of alternative transportation services, the current study was also structured to examine numerous variables pertinent to drinking and driving in general. The specific goals are: (1) to assess overall public opinion about the acceptability of drinking or drug use and driving; (2) to determine the comparative amount of drinking and driving or riding with drunk drivers that occurs among customers of businesses that serve alcohol in the targeted communities; (3) to determine the percentages of drinking drivers who have previously received

tickets for their drinking and driving behavior; (4) to examine the situational contexts in which customers do drink and drive; (5) to assess general norms regarding the acceptability of drinking and driving, and evidence of deviant normative attitudes (such as confidence one can drive safely when intoxicated); (6) to determine the relationship between typical drinking habits and attitudes/behavior pertinent to drinking and driving; and (7) to analyze the relationships between various demographic characteristics and attitudes and behavior relevant to driving "under the influence."

METHODOLOGY

This two-year study was developed as a means to evaluate the introduction of a comprehensive safe rides service developed and implemented by International Good Samaritans (IGS) of Lake Tahoe, Nevada. This unique, highly rated service (Harding, 1988; Harding, Apsler, Goldfein, in press, 1989) includes a daily, 24-hour a day program which takes the intoxicated driver as well as his/her car home for free. The evaluation of the service's ability to actually change drinking and driving attitudes and practices is being conducted in three primary phases. Details of the three-phase methodology have been presented previously (Caudill, 1988; Caudill, Kaufman Kantor & Ungerleider, 1988a; 1988b), and are available from the authors. Only Phase 1 of the

study has currently been completed, and the pertinent findings are reported here.

Phase 1 includes the collection of baseline data in two California communities - Sacramento and San Jose. This process began in the Fall of 1987. Sacramento, the experimental community, will receive the Safe Rides service in Fall of 1988. San Jose was chosen as a control community based upon the comparability of its population size and other demographic characteristics to Sacramento. At this stage of the investigation, baseline data have been collected on a sample of 1,522 bar and nightclub patrons in Sacramento and San Jose, California. Of the total sample, 760 questionnaires were distributed in Sacramento, while 758 were administered in San Jose (four surveys were not identifiable by city).

Male/female research teams were hired, trained, and supervised by the first two authors in both cities. These paid research teams included undergraduate and graduate students in the social sciences and staff from the Mothers Against Drunk Driving group. One graduate student was also hired and trained in each city to help the authors with supervision of the staff in each business where sampling occurred. All staff were trained to adhere to a strictly standardized procedure, and each carried cards with the verbatim introductory instructions. All customers were approached as they entered the businesses to provide an identical administration process across sampling sites, and to reach as many customers as possible before they consumed any significant

amount of alcohol. This data gathering process is now complete, and the bulk of these findings are reported here. The introductory instructions for the customers were as follows:

> "We're evaluating a free public service that will be introduced. We have a brief anonymous questionnaire and would appreciate it if you could fill one out while you're here. I can give you a coupon worth $3.00 credit at this bar for nonalcoholic items for helping us. (If customers asked about what the service includes, staff were told to briefly describe "Safe Rides" - "a free public service where people can get a free ride home if they feel too intoxicated to drive safely.") Also, please do not talk to your friends about anything on the questionnaire until after you are finished."

Several businesses in each city did not feel incentives were necessary due to a high level of cooperation, so the incentive remark was dropped from the introductory instructions. An initial assessment showed a 92% compliance rate.

DRINKING MEASURES

CATEGORIZING HIGH RISK CUSTOMERS

For the current report, the research team has primarily examined three specific subgroups, each of which is particularly at risk for drinking and driving due to their customary drinking habits. Respondents first were classified according to a commonly used drinking habits classification system designed by Cahalan (1969; 1970), and revised by Engs (1977; Engs & Hanson, 1985). Of the 1,522 respondents overall, 91.7% provided sufficient data for such classifications (N = 1,396). Of those classified, 4% (N = 56) are Abstainers; 5.7% (N = 80) are Infrequent Drinkers; 6.2% (N = 87) are Light Drinkers; 24.3% (N

= 339) are Moderate Drinkers; 32.2% (N = 449) are Moderate-Heavy Drinkers; and 27.6% (N = 385) are classified as Heavy Drinkers. The latter three groups (Moderate, Moderate-Heavy, and Heavy Drinkers) were selected as high risk subjects for the preparation of this report. It seemed important to specifically examine the results for these subgroups because these respondents are the only bar patrons in our sample who typically become legally intoxicated (BAC > .10) when they consume alcohol, and hence are most at risk for driving while legally impaired from the effects of alcohol.

Since there is some question regarding the validity of respondents' self-report under the influence of alcohol (Babor, Stephens & Marlatt, 1987), respondents were also classified according to the potential validity of their responses. Because no data were gathered on body weights, or the amount of time that had transpired since alcohol was consumed by each respondent, a conservative approach was adopted by labeling any respondents who had consumed three or more alcoholic drinks prior to their arrival as intoxicated respondents. The actual number of valid, or sober, respondents may have been much higher had the weight and time variables been included. Most male subjects would also require four drinks to be legally impaired (BAC > .10), but a conservative estimate was preferred. Of the overall heavy drinkers, 33 did not indicate how much alcohol they had consumed prior to completing their questionnaires so they could not be classified according to sobriety.

SAMPLE CHARACTERISTICS

DEMOGRAPHIC COMPARISONS BY CITY

Analyses of demographic variables across cities reveal a number of statistically significant differences between these two communities. As displayed in Table 1, respondents in Sacramento are significantly older, are more often married or living with a partner, have more children under 18 years of age living at home, and are more apt to work in blue collar occupations than those sampled in San Jose. Additionally, Sacramento respondents have a lower family income, are less educated, and have a smaller percentage of racial minorities. No differences were found between cities for gender, for the percentage of households that have two working spouses, or for the amount of beer, wine or liquor the respondents usually consume. Additionally, no between-city differences were found for the percent of respondents consuming any alcohol prior to completing their questionnaires, for the percentage of the sample who had consumed three drinks or more prior to completing their surveys or for the average number of drinks consumed prior to being sampled. As discussed above, the number of drinks consumed prior to survey completion was an important criterion in this study used in determining the validity of respondents' answers.

In comparing the sober respondents - those who had only consumed two drinks or less prior to participating - between cities, various statistically significant relationships are revealed. An examination of these findings shows the same

differences between cities as are presented in Table 1 for the overall sample with two exceptions. The exceptions are that no difference is found in the percentage of minorities between cities; and secondly that respondents in San Jose typically like to consume more beer than do respondents in Sacramento.

Overall, our findings on demographic differences are consistent with the 1980 Census data (U.S. Department of Commerce, 1983) for these two communities. The Census report shows the citizens of the San Jose area are generally more well-educated, work in occupations that are considered more white collar, their family incomes are higher, and a greater proportion of the population are minority members than is true for the Sacramento area.

ALCOHOL CONSUMPTION PRIOR TO SURVEY COMPLETION

Even though sampling took place during late afternoon and early evening hours (4 P.M. - 8:30 P.M.) and patrons were approached as they entered the bars, the majority of respondents had already consumed alcohol before arriving. Only 41% of the customers in Sacramento and 40% of those in San Jose had not consumed some alcohol before completing a survey. The difference between cities for the number of patrons who consumed alcohol before arriving at the bar is statistically nonsignificant. In Sacramento, 25% of the customers sampled, and 23% of those in San Jose, had three drinks or more (range from 3 - 15) before they arrived at the bar. The average number of drinks consumed prior

to arriving at the bar or nightclub was 2.7 for those reporting alcohol consumption prior to their arrival.

A multiple regression analysis using a backward elimination process was conducted to determine if demographic characteristics predicted respondents' pre-survey drinking behaviors (Table 2, Row 1). The results for overall respondents shows that ethnicity, gender and social class are all significant predictors. This means that whites, males, and those working in blue collar occupations consumed more alcohol prior to their arrival than did members of minorities, females, or white collar workers. These same relationships were examined for sober respondents only. The findings show that whites and those with higher income levels are most likely to have consumed alcohol prior to their arrival (see Table 3, Row 1). This latter analysis however, is limited by the validity criteria - those with more than two drinks prior to their arrival were excluded from this analysis (non-sober). Therefore, this analysis predicts prior consumption of up to two drinks only prior to participation.

RESULTS

PREDICTORS OF DRIVING WHILE INTOXICATED

Prior research has suggested a number of demographic variables relate to drinking and driving episodes (NHTSA, 1984). In the following section these relationships are examined based on

various multivariate procedures which are appropriate to the independent and dependent measures and which vary according to the nature of the research questions. All of the subsequent reported regression analyses utilize a backwards elimination technique.

DRINKING AND DRIVING DURING THE LAST YEAR

Perhaps the most important finding is that 70% of non-abstinent bar respondents in Sacramento and San Jose drove in the last 12 months when they felt "impaired" from having consumed a significant amount of alcohol. Since these data are based upon driving when "feeling intoxicated," the actual amount of drinking and driving would be higher. The average number of times respondents drove while feeling intoxicated in the last year is 14 times or just over once a month. The actual amount of driving while impaired from the effects of alcohol would be higher than this cited frequency because 27 respondents said they drive when impaired "often" or "all the time." Calculated averages excluded these respondents.

In examining the high risk populations, the amount of drinking and driving that occurs is considerably higher (see Figure 1). Of heavy drinkers overall, for instance, 87% drove at some time while intoxicated in the past 12 months. The average number of times heavy drinkers drove while intoxicated in the last year is 30 times (more than twice as often as the overall sample estimates).

Drinking patterns, city and driving while intoxicated. Analyses were conducted to determine if there were any differences in reported levels of drinking and driving for each subgroup based upon drinking habits (moderate, moderate-heavy, or heavy drinkers), for the comparisons of sober and intoxicated respondents, and for comparisons across cities. A three-way ANOVA was used to examine these possibilities. No differences were revealed by city. Intoxicated respondents, however, report more drinking and driving than do sober respondents ($F(1) = 9.14$, $p < .005$). There is also a difference by drinking habit- the greater the typical alcohol consumption, the more drinking and driving that is reported ($F(2) = 55.62$, $p < .001$). These findings are displayed graphically in Figure 1. Subsequent group comparisons using Tukey's HSD procedure show that each drinking habits group (i.e. Cahalan/Engs grouping) is significantly different than the others. There is also a two-way interaction of drinking history by city - moderate drinkers in San Jose drink and drive more than do moderate drinkers in Sacramento; while heavy drinkers in Sacramento drink and drive more than do heavy drinkers in San Jose ($F(2) = 4.6$, $p < .01$).

Demographic predictors of driving while intoxicated. A multiple regression analysis showed that males (overall - sober and intoxicated) drank and drove more in the last year than did females, as did blue collar respondents over white collar workers (see Table 2, Row 2). However, no demographic characteristic emerged as a significant predictor of drinking and driving in a

regression analysis for the sober respondents only (as noted in Table 3, Row 2).

RIDING WITH DRUNK DRIVERS DURING THE LAST YEAR

The extent of drinking and driving is also reflected by the fact that the majority of respondents (60% including the abstinent respondents) report riding with a drunk driver in the last 12 months. Of heavy drinkers overall, 71% report riding with a drunk driver at some time in the past 12 months. The average number of such rides for all respondents across cities in the last year is seven times (including the abstinent respondents). Heavy drinkers report 16 such rides in the last year. The actual number of times individuals rode with drunk drivers in the last year would be higher than the reported averages because 16 respondents said they do so "often" or "all the time." Figure 1 displays findings for this variable.

Drinking patterns, city, and riding with drunk drivers. A three-way ANOVA examining drinking habit by sobriety by city relationships reveals several significant group differences for riding with intoxicated drivers (see Figure 1). No difference by city was discovered, but intoxicated respondents report more such rides than do sober respondents ($F(1) = 5.59$, $p < .05$). A large difference by drinking habit is revealed where the more alcohol respondents typically consume, the more such rides they report ($F(2) = 35.18$, $p < .001$). Subsequent comparisons using Tukey's HSD

procedure shows that each drinking habit group is different than the rest for this variable.

Demographic predictors of riding with drunk drivers. A multiple regression analysis on the overall sample shows that two demographic variables are significant predictors of riding with drunk drivers - social class and marital status. Those who are not married or living with a partner, and those in blue collar occupations are more likely to report riding with an intoxicated motorist than are those who are married or from the white collar sector (see Table 2, Row 3). A comparable analysis of the sober respondents reveals that income is the only predictive demographic variable of riding with an intoxicated driver (see Table 3, Row 3). Those at the upper and lower ends of the socioeconomic spectrum report riding with intoxicated drivers more often.

TICKETS FOR DRINKING AND DRIVING: PERCENT PREVIOUSLY TICKETED

Another component of the research focuses on the proportion of drinking-drivers who are apprehended by the police for their behavior. Given the large number of people admitting to drinking and driving, surprisingly, only 17% of those surveyed report receiving tickets for these offenses. In examining the high risk group of heavy drinkers, however, 33% of those respondents overall had received tickets for drinking and driving.

Drinking patterns, city, and percent ticketed. A hierarchical log-linear procedure was conducted to determine if differences

exist between groups based upon drinking history (moderate, moderate-heavy, heavy drinkers), city of survey, or sobriety of respondents for this dependent measure. No differences are revealed between groups based upon the sobriety distinction. Respondents in Sacramento had received significantly more tickets than had those in San Jose ($G2\ (1) = 21.2$, $p < .0001$), and the more respondents typically consume (drinking history) the more tickets they reported receiving ($G2\ (2) = 79.8$, $p < .0001$). Subsequent Chi-Square tests showed that each drinking habits group is significantly different than the rest for this variable.

Demographic predictors of prior citations. In examining what demographic variables may predict being apprehended by the police for drinking and driving, a multiple regression shows that respondents overall who are male, are older, are from blue collar occupations, or are uneducated are most likely to have been apprehended for their drunk driving behavior (see Table 2, Row 4). The same demographic variables - age, gender, social class and education - are significant predictors in a regression analysis for the sober respondents (see Table 3, Row 4), and in the same direction.

TICKETS FOR DRINKING AND DRIVING: AVERAGE NUMBER PER OFFENDER

Of those respondents who had previously received a ticket for drinking and driving, 59.3% had received one ticket, and 22.1% had received two. The overall number of tickets received ranges from 0 to 13.

Drinking patterns, city, and number of prior citations. A three-way ANOVA revealed no differences by drinking habits classifications, by sobriety, or by city for the number of tickets respondents had received for drinking and driving.

Demographic predictors of number of drunk-driving tickets. A multiple regression analysis on the overall sample revealed two significant predictors of the prior number of tickets - age and income (see Table 2, Row 5). Respondents who are older and those with lower family income levels are most likely to have a greater number of tickets for drinking and driving. A multiple regression analysis on the sober sample revealed similar findings (see Table 3, Row 5). Those who are older, have lower incomes or are from blue collar occupations are most likely to have received a greater number of such citations.

DETERRENT EFFECTS OF THE POLICE ON DRINKING AND DRIVING

Because the potential for arrest should exert overriding effects on drinking-driving behavior, the survey instrument asked whether people do not drive after drinking or using drugs because the police are likely to stop them. More than half (59%) of the total sample of respondents say the police are only somewhat of a deterrent to no deterrent at all. Of the heavy drinkers overall, 63% say the police are no deterrent to only somewhat of one (see Figure 2). As depicted in the graph, few respondents report they definitely do not drive when intoxicated because of the deterrent effects of the police.

Drinking patterns, city, and perceptions of police deterrence. A three-way ANOVA revealed no statistically significant differences by city or dependent upon drinking habits or history. A difference was discovered, however, where the intoxicated respondents consider the police to be less of an effective deterrent than do sober respondents ($F(1) = 9.35$, $p < .005$; as displayed in Figure 2). A two-way interaction was also revealed where heavy drinkers in Sacramento note the police are less of a deterrent than do heavy drinkers in San Jose, and moderate drinkers in San Jose consider the police to be less of a deterrent than do moderate drinkers in Sacramento ($F(2) = 4.12$, $p < .05$).

Demographic predictors of perceptions of police deterrence. A multiple regression analysis reveals several significant predictors of perceptions of deterrence. Whites and blue collar workers rate the police as a greater deterrence than do minority members and white collar workers (see Table 2, Row 6). For the sober cases only, a regression analysis shows that the police are seen as the greatest deterrent to the younger portion of the sample (see Table 3, Row 6).

DEVIANT NORMS REGARDING DRINKING AND DRIVING

Another measure of deviancy in attitudes and behavior surrounding the issue of drinking/drug use and driving is provided by an index constructed from a series of six survey questions. The questions inquire about attitudes and behavior

surrounding the issue of drinking or drug use and driving. A respondent who scores high on this index therefore consumes alcohol and/or ingests drugs in what would normally be considered socially unacceptable and potentially hazardous circumstances. The results from this measure are displayed in Figure 3. Respondents are found to be moderately deviant overall on this measure, with several group differences.

Drinking patterns, city, and Deviant Norm scores. A three-way ANOVA shows that no differences exist between cities on this deviant norm measure, but several other differences are revealed. Intoxicated respondents are seen as more deviant than are sober respondents ($F(1) = 13.52$, $p < .001$), and as one's characteristic drinking habits become more pronounced (moving from moderate to heavy drinker categories) the deviancy increases ($F(2) = 20.81$, $p < .001$). Subsequent Tukey's HSD analyses show that each drinking habits group is different from the rest for this variable (as displayed in Figure 3). A two-way interaction of drinking habit by city is also revealed where heavy drinkers in Sacramento are rated as more deviant than are heavy drinkers in San Jose ($F(2) = 4.63$, $p < .01$).

Demographic predictors of Deviant Norm scores. A multiple regression analysis for the overall sample shows that several demographic variables serve as significant predictors of Deviant Norm scores. Respondents who are older, are male, are from blue collar occupations, or who are less educated are most deviant on this measure (see Table 2, Row 7). For the sober sample,

however, a multiple regression reveals that age is the only significant predictor of deviant norms; older respondents are more deviant (see Table 3, Row 7).

CONFIDENCE IN ABILITY TO DRIVE SAFELY WHEN INTOXICATED

Figure 4 displays results that suggest one of the justifications for drunk-driving is that respondents feel confident of their ability to drive safely when feeling intoxicated. Sixty-two percent of respondents overall note they feel they might to definitely can drive safely when they feel intoxicated. A larger proportion of heavy drinkers overall (75%) say they might to definitely can drive safely.

Drinking patterns, city, and confidence can drive safely intoxicated. A three-way ANOVA procedure on confidence reveals no significant findings by city, but shows that intoxicated respondents are more confident in driving safely when intoxicated than are sober respondents ($F(1) = 4.43$, $p < .05$), and reveals differences by drinking habit ($F(2) = 14.16$, $p < .001$). As the amount of alcohol the respondent typically consumes increases (from moderate to heavy drinking classifications), their confidence in driving safely when intoxicated also increases (as can be seen in Figure 4). Subsequent Tukey HSD analyses show that each of the drinking habits groups is different from the rest on this variable. A two-way interaction of sobriety by city is also revealed ($F(1) = 4.26$, $p < .05$), where sober drinkers in

San Jose are the least confident group in their safe driving abilities when intoxicated.

Demographic predictors of confidence can drive safely when intoxicated. A multiple regression procedure on the overall sample isolated several significant predictors of confidence in driving safely when intoxicated (see Table 2, Row 8). Males are seen as more confident, as are those who are not married and those with less education more confident in driving safely when impaired. A multiple regression on the sober sample, however, found that social class is the only significant predictor of confidence. Those from blue collar positions are more confident they can drive safely when intoxicated than are white collar workers (see Table 3, Row 8).

PERCEIVED ACCEPTABILITY OF DRINKING AND DRIVING

When asked if there are situations they can think of where it is acceptable to drive while intoxicated, 30% of customers overall respond affirmatively. In examining the heavy drinker group, however, 43% do. The findings for this variable are displayed in the top portion of Figure 5.

Drinking patterns, city, and perceived acceptability of drinking and driving. A log-linear analysis found no differences between cities on this variable, nor between sober and intoxicated respondents. The log-linear analysis, however, did reveal a significant effect for the drinking habit variable ($G^2(2) = 28.81$, $p < .0001$). As Figure 5 displays, the greater the

amount of alcohol the respondents typically drink, the more acceptable they feel it is to drive while feeling intoxicated. Subsequent Chi-Square tests reveal significant differences between each of the drinking habits groups.

Demographic predictors of perceived acceptability of drinking and driving. A multiple regression procedure shows that respondents overall who are unmarried, male, or of low income status are most likely to say it is acceptable to drink and drive (see Table 2, Row 9). For sober respondents, those who are unmarried or of low income status are most likely to deem such behavior acceptable (see Table 3, Row 9).

PERCEIVED ACCEPTABILITY OF DRUG USE AND DRIVING

When asked if there are situations they can think of where it is acceptable to drive after using drugs, 27% of bar patrons overall report affirmatively. In examining heavy drinkers, however, 36% of these respondents report such behavior is acceptable. The findings for this variable are displayed in the bottom portion of Figure 5.

Drinking patterns, city, and the perceived acceptability of drug use and driving. A log-linear analysis shows that there are no differences between cities on this variable, nor between sober and intoxicated respondents. The log-linear analysis, however, did reveal a significant effect for the drinking habit variable ($G2\ (2) = 19.62$, $p < .0001$). As Figure 5 displays, the greater the amount of alcohol the respondents typically drink, the more

acceptable they feel it is to use drugs and drive. Subsequent Chi-Square tests show that moderate-heavy and heavy drinkers are not different on this variable, but that both differ from moderate drinkers.

Demographic predictors of the perceived acceptability of drug use and driving. A multiple regression analysis on the overall sample shows that respondents who are younger, are males, or are in the lower income range are most likely to feel it is acceptable to use drugs and drive (see Table 2, Row 10). A multiple regression on the sober sample shows that those who are younger or in the lower income range are most likely to deem drug use and driving as acceptable behavior (see Table 3, Row 10).

AWARENESS OF SAFE RIDE SERVICE OPTIONS

Of all respondents, 62% report some prior awareness of the existence of Safe Ride services. Statistical tests show that there is no difference in awareness between bar patrons in Sacramento and those in San Jose, or between sober and intoxicated respondents. Of heavy drinkers, 55% have previously heard of safe rides services.

PRIOR USE OF SAFE RIDE SERVICES

Of those who have previously heard of safe ride services, only 6.9% report actually using such a service. Of heavy drinkers overall, 12.3% report using Safe Ride services at some time in the past. Statistical tests show that there are no differences

on this variable for comparisons of Sacramento and San Jose, nor for sober versus intoxicated respondents. Mean usage of safe rides services is reported at four times for those who have done so (range from once to 20 times).

USEFULNESS OF SAFE RIDE SERVICES

Ratings of the utility of alternative transportation services show that the majority of respondents note the availability of such a service would be extremely useful. 96.4% of all respondents say they believe the availability of such a public service would be somewhat to very useful. Of all 1,522 subjects, 62.9% give a rating of 10 for usefulness on a "1 - 10" scale.

Drinking patterns, city, and perceptions of utility. A log transformed three-way ANOVA for usefulness shows that no difference exists in perceptions of utility between the three different drinking habits categories, but differences by sobriety and by city were revealed. Sober respondents rate the service as more useful than do intoxicated respondents ($F(1) = 8.05$, $p < .005$); and those in Sacramento rate the service as more useful than do those in San Jose ($F(1) = 4.68$, $p < .05$). A two-way interaction of drinking habits by city was revealed ($F(2) = 5.39$, $p < .005$) which shows that heavy drinkers in Sacramento rate the service as most useful. A three-way interaction was also revealed ($F(2) = 3.76$, $p < .05$) where intoxicated moderate drinkers in San Jose see the service as least useful, while

intoxicated heavy drinkers in Sacramento rate the service as most useful.

Demographic predictors of perceived utility. A multiple regression analysis for the overall sample shows that those with less education consider the service as most useful, but no other demographic characteristics served as useful predictors for this variable (see Table 2, Row 11). For the sober sample, a multiple regression shows that male respondents consider the service as more useful than do females (see Table 3, Row 11).

WOULD RESPONDENTS USE THE SERVICE IF AVAILABLE?

Respondents are extremely positive about their potential for using the service (see Figure 6). Of all 1,522 patrons, 79% report they might to definitely would use the service; 26% overall report they definitely would use the service. In looking at heavy drinkers overall, 87% say they might to definitely would use the service; 35% of the heavy drinkers say they definitely would use the service.

Drinking patterns, city, and likelihood of utilization. A three-way ANOVA shows that no difference exists on potential use of a Safe Rides service by city or sobriety. There is, however, a significant effect by drinking habits categories ($F(2) = 6.93$, $p < .001$). The greater the amount of alcohol the respondent typically consumes, the more they say they would use the service (see Figure 6). Subsequent Tukey HSD analyses show that heavy drinkers are significantly more likely to use the service than

are moderate-heavy and moderate drinkers, but that the latter two groups do not differ on this variable.

Demographic predictors of utilization. A multiple regression analysis for the overall sample shows that those with a lower income level and those from blue collar positions would be most likely to use the service (see Table 2, Row 12). However, a multiple regression analysis of the sober sample found that no demographic variable is able to adequately predict use of the service.

WOULD PATRONS USE THE SERVICE MORE IF THEIR CAR WAS TAKEN HOME?

Customers are even more positive about the likelihood of their using the service if their cars are taken home for them, as the IGS service in Sacramento will include. In examining responses for all 1,522 respondents, 85% report they might to definitely would use the service if their cars are also taken home; 40% say they definitely would. Of heavy drinkers overall, 90% say they might to definitely would use such a service; 52% say they definitely would.

Drinking patterns, city, and likelihood of utilization. A three-way ANOVA shows that no differences between cities exist for this measure, but there are differences by sobriety and drinking habits (see Figure 7). Sober respondents are more likely to use the service than are intoxicated respondents ($F(1) = 6.35$, $p < .05$). It might be noted, however, that intoxicated patrons are considerably more likely to use the service if it

includes taking the car home than if it does not. Secondly, as the respondents' typical drinking habits become more pronounced (moving up from moderate to heavy drinkers), their likelihood of using the service increases ($F(2) = 4.39$, $p < .05$). Subsequent Tukey HSD analyses show that heavy drinkers differ from moderate drinkers on this variable, but other comparisons are not statistically significant. However, results of the ANOVA show a two-way interaction of drinking habits by sobriety where an increase in drinking habits predicts an increase in service usage for the sober respondents but not for the intoxicated ones ($F(2) = 3.26$, $p < .05$).

Demographic predictors of utilization. A multiple regression analysis for the overall sample shows that those respondents with lower incomes, and those working in the blue collar sector are most likely to use the service (see Table 2, Row 13). A multiple regression on the sober sample shows that income is the only significant predictor of use (those with less income are most likely to use the service; see Table 3, Row 13).

DISCUSSION

The current findings show a substantial amount of drinking and driving occurring in the communities surveyed, Sacramento and San Jose. The majority of respondents (70%) report consuming enough alcohol to "feel intoxicated", then driving at some time during the last year. The average number of times was 14, or more than

once a month. Of the heavy drinkers in the sample, however, 87% drove while intoxicated some time in the past 12 months. Heavy drinkers drove while intoxicated an average of 30 times in the last year.

Another indication of extensive drinking and driving occurring in these communities is reflected by results that show a substantial amount of reported riding with intoxicated drivers. Of all 1,522 respondents, 60% report riding with a drunk driver in the last year (an average of 7 times). Of heavy drinkers, however, 71% had (an average of 16 times). One must be cautious, however, in generalizing to all bar/nightclub patrons in both cities since the bars sampled in were not randomly selected from all such businesses in each community, nor were customers randomly chosen (every customer was approached).

In general, the Cahalan/Engs (1969; 1977) drinking habits classification system proved to be a highly valuable tool for differentiating between various levels of drinkers and almost uniformly served as an excellent predictor of attitudes and behavior surrounding the issue of drinking or drug use and driving. Individuals who were classified as heavy drinkers report considerably more drinking and driving and riding with drunk drivers than do respondents from any other drinking habits category. These findings are consistent with prior literature which suggests that recent drinking habits serve as a strong predictor of drinking driving behavior (Wilson & Jonah, 1985). Of particular importance, the Cahalan/Engs system allowed the

researchers to isolate a particular sample of respondents, namely heavy drinkers, who also held the most deviant attitudes about the acceptability of drinking or drug use and driving - as reflected by multiple indices. This constellation of deviant attitudes and behavior regarding drunk driving behavior was also noted for a heavy drinker population in the study by Wilson & Jonah (1985). The heavy drinkers in the current study, however, also held the most constructive attitudes about their potential for using Safe Rides services. This power in differentiation may help to identify those individuals who might best be targeted (in advertising) for attitudinal change efforts. Targeting efforts might encourage certain groups to be more open to using alternative transportation services when intoxicated, or help increase awareness of the availability of Safe Rides options.

The research literature suggests that the presence of police patrols to seek out and arrest drunk drivers would serve as some deterrent for drinking and driving (Ross, 1984). It therefore seemed important to determine the percentage of drinking-drivers who had been apprehended by the police for their drinking driving behavior. Of all respondents only 17% had previously received tickets for drunk driving behavior while 70% report driving while intoxicated in the last year. Of heavy drinkers, however, 33% had received tickets for DWI prior to the survey while 87% report drunk driving. Even though a third of heavy drinkers had previously been apprehended for drunk driving behavior, the majority of respondents note they do not see the police as an

effective deterrent. Heavy drinkers perceive the police as a minimal deterrent, as do respondents who typically consume less alcohol, even though the heavy drinkers have received considerably more tickets. Prior literature has suggested that negative perceptions of police deterrence are linked to increased drunk driving behavior (Wilson & Jonah, 1985).

The finding that most respondents perceive the police as a weak deterrent to drinking and driving is consistent with several recent reviews of the deterrence literature (Bloch & Aizenberg, 1985; NHTSA, 1984; Ross, 1984), but the deterrent effects of increased law enforcement should not be fully discounted. The police are seen as a strong deterrent for a number of respondents. These findings instead may suggest that other supplemental drinking and driving prevention approaches are indicated, as suggested earlier.

Another indicator of deviancy in attitudes and behavior surrounding the issue of drinking or drug use and driving was reflected by the examination of normative attitudes (using the Deviant Norm Index). Respondents are moderately deviant overall on this measure, indicating further that a large number of individuals often consume alcohol or ingest drugs then drive, hence jeopardizing the lives of others. Heavy drinkers are more deviant on this index, which is consistent with their report of more drinking and driving, riding with drunk drivers, and greater perceived acceptability of such behavior. The fact that heavy drinkers in Sacramento are more deviant in this regard than heavy

drinkers in San Jose may also be a function of the older average age of respondents in Sacramento, which was shown to be a significant predictor of Deviant Norm scores.

An additional indicator of general deviancy, and of the deviancy of heavy drinkers in particular, was revealed when examining the responses for the acceptability of drinking or drug use and driving. Of overall respondents 30% said it is acceptable to drink and drive under some circumstances, and 27% said driving under the influence of drugs is acceptable. The respective percentages for heavy drinkers, however, were 43% and 36%. Heavy drinkers perhaps hope to justify their hazardous drinking and driving behavior by deeming it acceptable-consistent with cognitive dissonance theory (Festinger, 1957), but one discrepancy is still interesting to note. The discrepancy is that more than twice as many respondents overall, or heavy drinkers in particular, drink and drive than consider it acceptable to do so under any circumstances. Perhaps this result highlights the double-standard that is so typical to American culture where it is acceptable for oneself to engage in deviant or potentially hazardous behavior, but not for someone else-especially if the other person's behavior may endanger the life of the respondent.

Support for this concept or interpretation is gained from examining results for confidence one can drive safely while feeling intoxicated. The vast majority of respondents indicated they "might" to "definitely would" drive safely when intoxicated.

Heavy drinkers are even more certain they can drive safely when feeling intoxicated. Again it is intriguing that respondents consider it unacceptable to drive when intoxicated due to their concerns for safety, yet they personally do so anyway and feel they can drive safely when drunk or under the influence of drugs - just as long as the "other person" does not attempt to drive when legally impaired and endanger them.

The responses to factors examined here indicate that many, if not most of those sampled in this bar patron study, hold various attitudes which are often at variance with the law and public safety. Introducing major educational strategies, and making public service options available for the drunk driver, may be necessary before any major shift occurs in attitudes. Even though respondents consider it unacceptable to drink and drive, they do so anyway, perhaps due to the perceived unavailability of other options such as alternative transportation. The current project will attempt to change attitudes and behavior by conducting a major PSA campaign through all media outlets coupled with the introduction of a public service to help eliminate any possible excuses for driving under the influence of alcohol or drugs in Sacramento. Further educational efforts seem indicated, however, - especially early educational training in the schools- in an attempt to educate our youth in the development of positive and healthy norms in the first place. Hopefully, coupling educational input from the media and the introduction of a public service to prevent drinking and driving will help change pre-

existing deviant norms in the intervention community (since most respondents drink and drive and feel they are no potential hazard to the community).

The current study has been tailored to track this process over time by gathering comparable data on attitudes and behavior after the implementation occurs. Additionally the study will track the reporting of incidents and attitudes in the media in both communities over time (to see if change occurs), and examine the effects of implementation on various forms of traffic incidents (DWI arrests, convictions, crashes, and fatalities) in the communities examined.

Of interest is that 23% - 25% of customers entering bars in the late afternoon and early evening hours had already consumed three alcoholic drinks or more before they arrived. Typically, day-time drinking is viewed as a property of the problem or alcoholic drinker. Conversely, the conventional belief, based most likely in sober, working, middle-class standards, is that drinking and driving problems belong to the night. However, these data suggest otherwise.

Since a large portion of the overall sample was composed of customers who were already legally intoxicated when they arrived at the bars, the authors examined data for individuals from each drinking habits category who were intoxicated when they arrived, and contrasted their attitudes and behavior with comparable respondents who had not yet that evening engaged in heavy consumption of alcohol. Because there is some question of the

validity of self-report from intoxicated respondents (Babor, et al., 1987), customers who had consumed three alcoholic beverages or more before completing their questionnaires were labeled intoxicated cases. Because heavy drinkers who become intoxicated early in the day may hold more deviant attitudes about drinking and driving and behave more deviantly in this regard than may heavy drinkers who can wait until the evening when they reach the bars before becoming intoxicated, these groups were examined separately. A conservative approach was adopted by labeling any amount over two drinks consumed that day as potentially invalidating that individual's responses. Many of the so-called intoxicated respondents may in fact have not been legally impaired, or intoxicated (BAC > .10), according to these criteria.

As predicted, the intoxicated respondents were found to be considerably more deviant on nearly every measure when contrasted with sober customers. They drink and drive more, ride with intoxicated drivers more, consider the police to be less of a deterrent to their drinking and driving, are more confident they can drive safely while intoxicated, and their Deviant Norm Index is higher (reflecting greater deviancy in attitudes and behavior surrounding the situations in which they drink in general, and drink and drive in particular). Some of the self-report of intoxicated respondents can be attributed to the lack of validity of their responses. The consistency of deviant attitudes and behavior that is seen with this population in both cities,

however, suggests that perhaps they are more deviant, i.e., more likely to be diagnosed as alcoholics by standard diagnostic criteria, than comparable drinkers who are able to wait until later in the day to begin their heavy alcohol consumption. It is also possible that sober respondents are underreporting their general deviancy in drinking and driving attitudes and behavior, and that consumption of a moderate amount of alcohol by the so-called intoxicated customers has instead elicited increased levels of self-disclosure regarding these survey questions (Caudill, Wilson & Abrams, 1987). Future studies might examine differences between these two populations in greater detail to see if targeting this "more deviant" group (19% of the overall sample) may enhance the efficaciousness of alcohol countermeasure efforts.

Multiple regression analyses revealed a number of significant relationships between different demographic variables and attitudes/behavior about drinking and driving. This is consistent with prior literature (NHTSA, 1984) and helps explain several of the differences that were revealed between cities for the current study. It must be noted, however, that few analyses accounted for much of the variance in explaining any particular behavior. Perhaps this is why major demographic differences were revealed between cities, yet analyses between cities for most of the dependent measures were not significant. Since the purpose in studying drinking and driving behavior in two cities is to include an adequate control group for comparisons with

Sacramento, it is ideal that only in rare instances is there a city difference in the results.

In examining the overall pattern of demographic variables serving as predictors of drinking and driving attitudes and behavior, there are several basic trends that were particularly evident in the results. Males generally report more drinking and driving than do females, as well as more riding with drunk drivers. Males are stopped more often by the police for drinking and driving, and feel it is more acceptable to drink and drive. Males, however, note they feel the service is more useful than do females - perhaps due to their typically heavier drinking. Older respondents were also typically more deviant: report more DWI arrests, more overall DWI tickets, consider the police to be less of a deterrent, and have more deviant norms in general about the acceptability of drinking or drug use and driving. Social class was a powerful predictor of drinking and driving attitudes and behavior. Those in blue collar occupations are more likely to report drinking and driving, riding with drunk drivers, prior DWI arrests, exhibit more extremely deviant norms, and are more confident they can drive safely when intoxicated. Class differences in problem-drinking behavior have also been reported by other researchers (Cahalan, 1970; Cahalan and Room, 1974; Kaufman Kantor and Straus, 1987). The social class difference was also supported by our findings for educational relationships. Those who are least educated report the greatest number of prior DWI arrests, have more deviant norms, and are most confident in

driving safely when intoxicated. Finally, those with the lowest income levels report more prior DWI arrests, and feel it is more acceptable to drink or use drugs and drive. However, it is also extremely important to note that blue collar workers and those with the lowest income levels, report the greatest likelihood of using a Safe Rides service were it available in their communities.

Respondents overwhelmingly rated Safe Rides services as extremely useful. The vast majority of all respondents also indicated that they would be very likely to utilize an alternative transportation service were it available in their area. It was particularly encouraging to find that heavy drinkers, who drink and drive and ride with drunk drivers more than any other drinking habits group, and who also have the most deviant attitudes about the acceptability of driving when drunk or under the influence of drugs (Wilson & Jonah, 1985), were <u>most</u> likely of all groups to use the service were it available.

These results overall suggest that a Safe Rides service will be widely utilized once it is introduced in California. A much broader range of drinking and driving countermeasures is necessary, however, if we hope to adequately deal with our national crisis of the drunk driver. One alcohol countermeasure by itself is not sufficient. A broad-based effort must include interventions such as introducing dram shop laws (Colman et al., 1985; Mosher, 1979; Mosher & Colman, 1985), encouraging police efforts and license actions along with some certainty of

punishment (Ross, 1984), server intervention training (Mosher, 1984; Saltz, 1985; 1986; 1987) , establishing formal designated driver programs (Apsler et al., 1987), and providing alternative transportation for the drunk driver (Harding et al., in press, 1989).

The current report presents baseline data from a two-year three-phase investigation of alternative transportation in two major California cities. Further data will be collected over the next two years from the media to control for various potential experimental confounds by tracking the influence of media, weather, recency and severity of local incidents upon long-term traffic incident data. Data will also be collected from actual users of the service to determine the effects of usage on their typical drinking habits and drinking and driving attitudes and behavior. After the service has operated for eight months, another survey will be administered in the same bars and nightclubs in Sacramento and San Jose to see if a general shift in attitude or behavior has occurred as a function of service implementation.

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TABLE 1

DEMOGRAPHIC COMPARISONS ACROSS CITIES

OVERALL RESPONDENTS (N = 1,522)

	SACRAMENTO (760)	SAN JOSE (758)	Significance
AGE	34.4 Years	28.6 Years	* p < .001
SEX	59.5% Male 40.5% Female	62.1% Male 37.9% Female	** Nonsign.
MARITAL STATUS	38.4% Married or Living with Partner	26.6% Married or Living with Partner	** p < .0001
TIME LIVED WITH PARTNER	8.6 Years	5.8 Years	* p < .001
NUMBER OF CHILDREN AT HOME	.52 Children	.28 Children	* p < .001
WORKING CLASS STATUS OF RESPONDENTS	55.7 % White Collar 44.3 % Blue Collar	73.9 % White Collar 26.1 % Blue Collar	** p < .0001
WORKING CLASS STATUS OF RESPONDENTS' PARTNERS	48.3 % White Collar 51.7 % Blue Collar	65.0 % White Collar 35.0 % Blue Collar	** p < .0005
FAMILY INCOME	55.1 % Earn Under $25,000 44.9 % Earn Over $25,000	37.6 % Earn Under $25,000 62.4 % Earn Over $25,000	** p < .0001
EDUCATION	35 % Did Not Attend College 38.4 Attended Some College 26.6 % Were College Graduates	22.8 % Did Not Attend College 37.8 % Attended Some College 39.3 % Were College Graduates	** p < .0001
MINORITY STATUS	20.1 % Were Minorities	26.0 % Were Minorities	** p < .01

* Based upon 2-tailed t-tests. ** Based upon Chi-Square tests.

TABLE 1 (CONTINUED)

OVERALL RESPONDENTS (N = 1,522)

	SACRAMENTO (760)	SAN JOSE (758)	Significance
INCOME BASED UPON 2 WORKING PERSONS	29.7 % Were	25.5 % Were	** Nonsign.
AMOUNT OF BEER USUALLY CONSUMED	55.0 % Usually Consume 2 Beers or Less 45.0 % Usually Consume 3 Beers or More	51.3 % Usually Consume 2 Beers or Less 48.7 % Usually Consume 3 Beers or More	** Nonsign.
AMOUNT OF WINE USUALLY CONSUMED	81.8 % Usually Consume 2 Glasses of Wine or Less 18.2 % Usually Consume 3 Glasses of Wine or More	80.7 % Usually Consume 2 Glasses of Wine or Less 19.3 % Usually Consume 3 Glasses of Wine or More	** Nonsign.
AMOUNT OF LIQUOR USUALLY CONSUMED	47.7 % Usually Consume 2 Drinks or Less 52.3 % Usually Consume 3 Drinks or More	46.9 % Usually Consume 2 Drinks or Less 53.1 % Usually Consume 3 Drinks or More	** Nonsign.
WHETHER THEY CONSUMED ALCOHOL PRIOR TO SURVEY	58.7 % Did Consume Alcohol Before Survey	60.0 % Did Consume Alcohol Before Survey	** Nonsign.
WHETHER THEY CONSUMED 3 DRINKS OR MORE PRIOR TO SURVEY (VALIDITY QUESTION)	25.0 % Did Consume 3 Drinks or More Before Survey	23.2 % Did Consume 3 Drinks or More Before Survey	** Nonsign.
OVERALL NUMBER OF DRINKS CONSUMED PRIOR TO SURVEY	1.63 Drinks Consumed Prior to Survey	1.57 Drinks Consumed Prior to Survey	* Nonsign.

* Based upon 2-tailed t-tests. ** Based upon Chi-Square tests.

Table 2

Regression Analyses
Demographic Variables/Entire Sample

Dependent Variable / Predictors	R^2	F	p <	beta	Std. Beta	T	p-value	Direction of Effect For Categorized Groups Respondents
1. # of Drinks Prior to Survey Completion	.034	12.4	.0001					
Ethnic Group				.059	.183	1.982	.0513	Whites > Minorities
Sex				-.101	.139	-3.311	.0010	Males > Females
Social Class				.135	.144	4.428	.0001	Blue Collar > White Collar
2. Driven Drunk in the Last 12 Months	.035	21.0	.0001					
Sex				-.103	2.30	-3.529	.0004	Males > Females
Social Class				.144	2.38	4.911	.0001	Blue Collar > White Collar
3. Ridden W/Drunk Driver in the Last 12 Months	.025	14.7	.0001					
Social Class				.145	1.57	4.983	.0001	Blue Collar > White Collar
Marital Status				-.069	1.60	-2.381	.0174	Unmarried > Married Living with Partner
4. Ticketed for DWI	.102	33.3	.0001					
Age				.194	.001	6.780	.0001	Older > Younger
Sex				-.084	.022	-2.930	.0035	Males > Females
Social Class				.136	.024	4.453	.0001	Blue Collar > White Collar
Education				-.089	.010	-2.930	.0035	Less Educated > More Educated
5. # of Prior Tickets	.103	10.9	.0001					
Age				.225	.011	3.271	.0013	Older > Younger
Income				-.235	.038	-3.419	.0008	Lower Income > Higher Income
6. Police Deterrence	.007	3.2	.0419					
Ethnic Group				.068	.249	1.975	.0486	Whites > Minorities
Social Class				.058	.220	1.733	.0838	Blue Collar > White Collar
7. Deviant Norm Index	.045	9.5	.0001					
Age				.073	.036	2.035	.0422	Older > Younger
Sex				-.106	.728	-2.971	.0031	Males > Females
Social Class				.098	.797	2.564	.0105	Blue Collar > White Collar
Education				-.073	.332	-1.920	.0552	Less Educated > More Educated
8. Confidence Can Drive Safely When Intoxicated	.023	8.9	.0001					
Sex				-.099	.159	-3.380	.0007	Males > Females
Marital Status				-.074	.166	-2.530	.0115	Unmarried > Married/ Living with Partner
Education				-.099	.068	-3.367	.0008	Less Educated > More Educated
9. Acceptability of Driving While Intoxicated	.018	6.6	.0002					
Sex				-.060	.029	-1.960	.0502	Males > Females
Marital Status				-.089	.030	-2.876	.0041	Unmarried > Married/ Living with Partner
Income				-.096	.013	-3.117	.0019	Lower Income > Higher Income
10. Acceptability of Driving Under the Influence of Drugs	.023	8.2	.0001					
Age				-.106	.002	-3.399	.0007	Younger > Older
Sex				-.078	.026	-2.448	.0145	Male > Female
Income				-.114	.013	-3.685	.0002	Lower Income > Higher Income
11. Service Usefulness Education	.004	4.6	.0321	-.063	.060	-2.148	.0321	Less Educated > More Educated
12. Likelihood of Using the Service	.031	18.9	.0001					
Income				-.096	.030	-3.236	.0013	Lower Income > Higher Income
Social Class				.127	.184	4.282	.0001	Blue Collar > Higher Income
13. Likelihood of Using the Service if Car is Taken Home Also	.016	9.4	.0001					
Income				-.103	.030	-3.465	.0005	Lower Income > Higher Income
Social Class				.050	.187	1.688	.0916	Blue Collar > White Collar

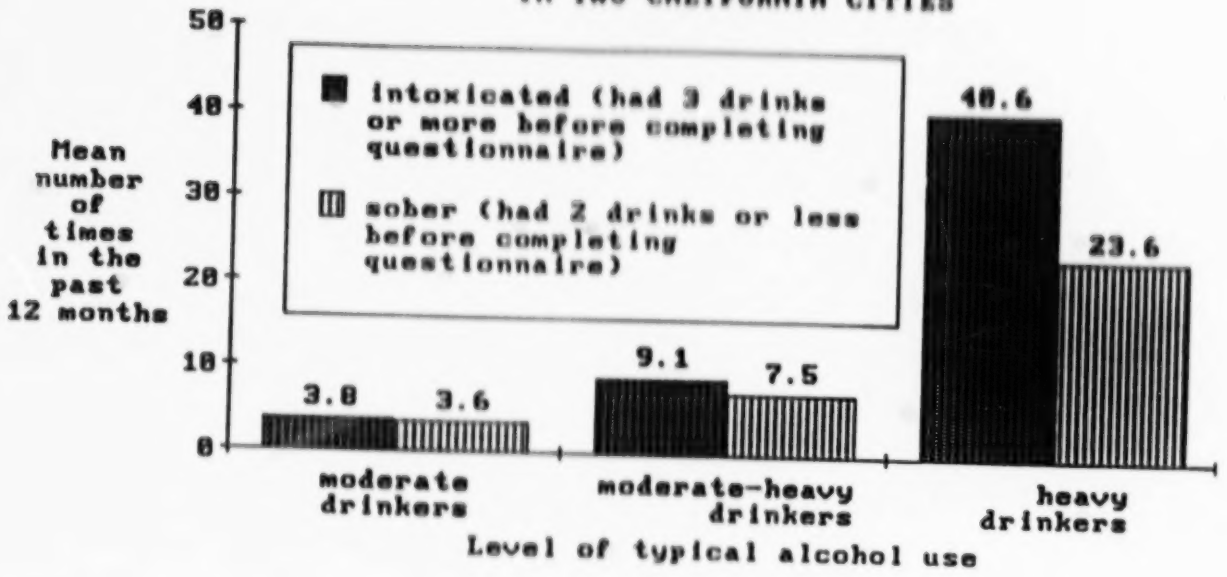
Table 3

Regression Analyses
Demographic Variables/Sober Respondents Only

	Concept / Predictors	R_2	F	p <	beta	St. E. beta	T	p-value	Direction of Effect For Categorized Groups Respondents
1.	# of Drinks Prior to Survey Completion	.021	8.5	.0002					
	Ethnic Group				.113	.063	3.225	.0013	Whites > Minorities
	Income				.079	.009	2.246	.0250	Higher Income > Lower Income
2.	Driven Drunk in Last Twelve Months		'no variables remained in the equation'						
3.	Ridden W/Drunk Driver in the Last 12 Months	.075	4.7	.0336					
	Income				-.275	1.27	-2.176	.0336	Lower Income > Higher Income
4.	Ticketed for DWI	.095	20.6	.0001					
	Age				.162	.017	4.640	.0001	Older > Younger
	Sex				-.126	.025	-3.633	.0003	Males > Females
	Social Class				.080	.029	2.147	.0321	Blue Collar > White Collar
	Education				-.149	.012	-4.036	.0001	Less Educated > More Educated
5.	# of Prior Tickets	.238	5.5	.0022					
	Age				.249	.023	2.114	.0390	Older > Younger
	Income				-.228	.082	-1.830	.0725	Lower Income > Higher Income
	Social Class				.259	.434	2.077	.0424	Blue Collar > White Collar
6.	Police Deterrence	.084	5.3	.0245					
	Age				-.290	.045	-2.309	.0245	Younger > Older
7.	Deviant Norm Index	.162	11.2	.0014					
	Age				.402	.141	3.345	.0014	Older > Younger
8.	Confidence Can Drive Safely When Intoxicated	.088	5.6	.0213					
	Social Class				.297	.594	2.367	.0213	Blue Collar > White Collar
9.	Acceptability of Driving While Intoxicated	.012	4.6	.0103					
	Marital Status				-.087	.034	-2.443	.0148	Unmarried > Married Living with Partner
	Income				-.072	.015	-1.997	.0461	Lower Income > Higher Income
10.	Acceptability of Driving Under the Influence of Drugs	.018	7.0	.0010					
	Age				-.090	.002	-2.509	.0123	Younger > Older
	Income				-.109	.015	-3.032	.0025	Lower Income > Higher Income
11.	Service Usefulness Ratings	.072	4.5	.0387					
	Sex				-.268	.493	-2.115	.0387	Males > Females
12.	Likelihood of Using the Service		'no variables remained in the equation'						
13.	Likelihood of Using the Service if Car is Taken Home Also	.066	4.1	.0473					
	Income				-.257	.132	-2.026	.0473	Lower Income > Higher Income

FIGURE 1

DRIVING WHILE FEELING INTOXICATED
AMONG BAR PATRONS
IN TWO CALIFORNIA CITIES



RIDING WITH INTOXICATED DRIVERS
AMONG BAR PATRONS
IN TWO CALIFORNIA CITIES

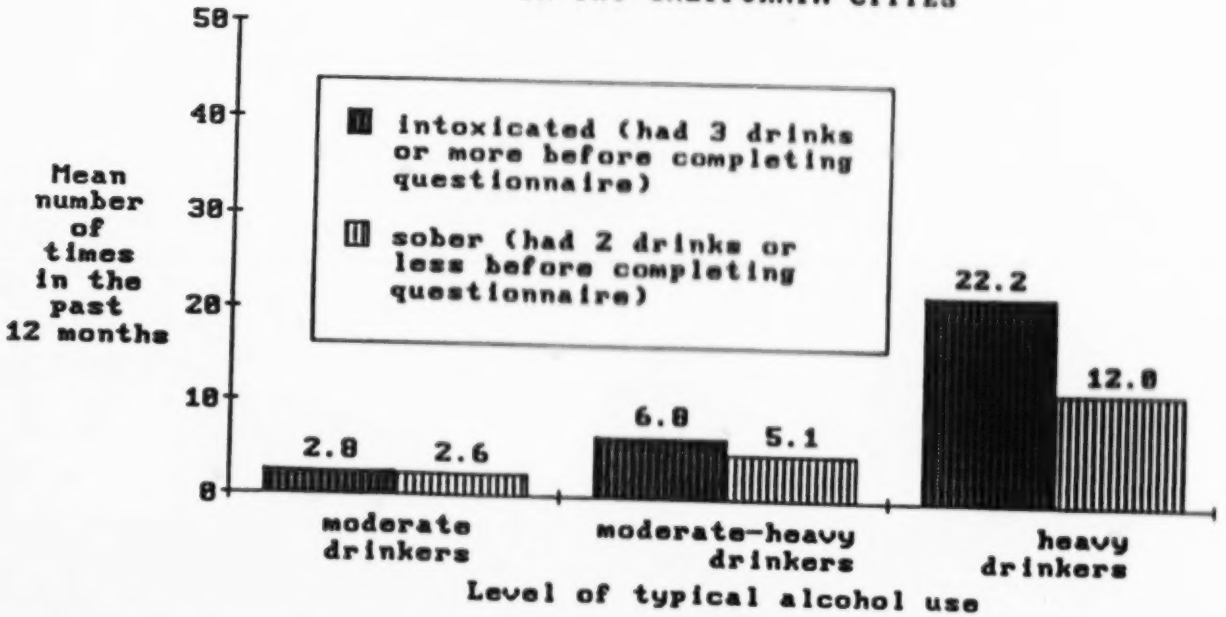
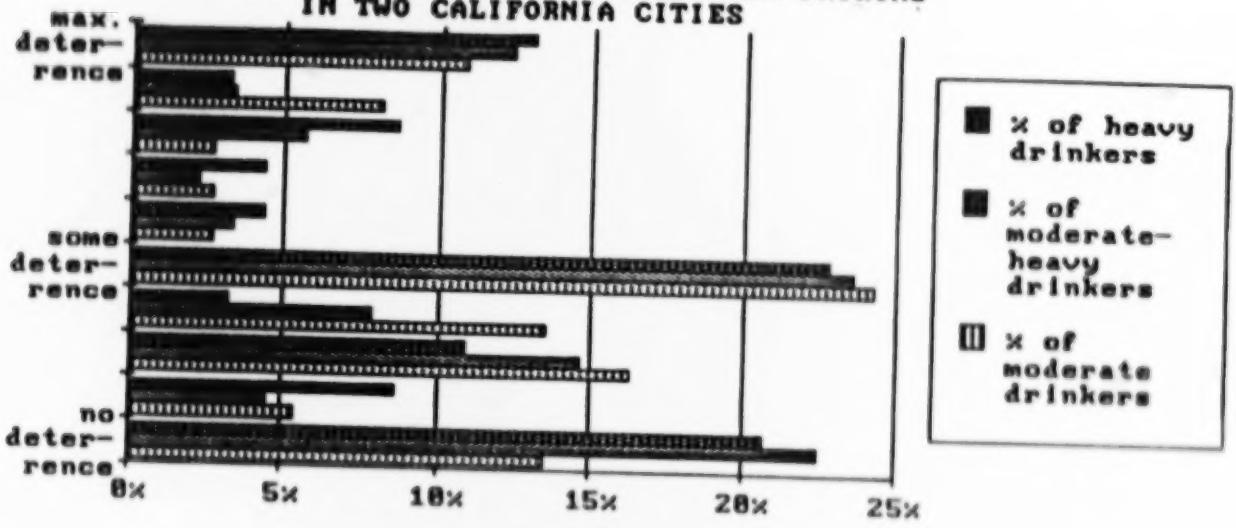


FIGURE 2

CHOOSING NOT TO DRIVE AFTER DRINKING OR USING DRUGS DUE TO POLICE DETERRENCE AMONG I N T O X I C A T E D (had 3 drinks or more before completing questionnaire) BAR PATRONS IN TWO CALIFORNIA CITIES



CHOOSING NOT TO DRIVE AFTER DRINKING OR USING DRUGS DUE TO POLICE DETERRENCE AMONG S O B E R (had 2 drinks or less before completing questionnaire) BAR PATRONS IN TWO CALIFORNIA CITIES

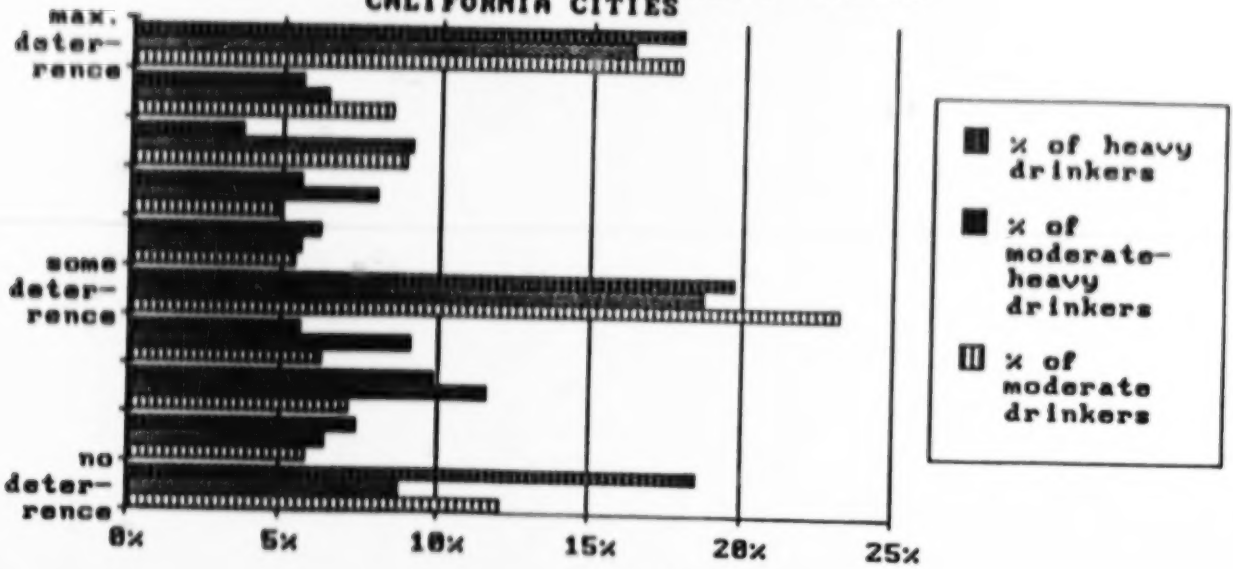
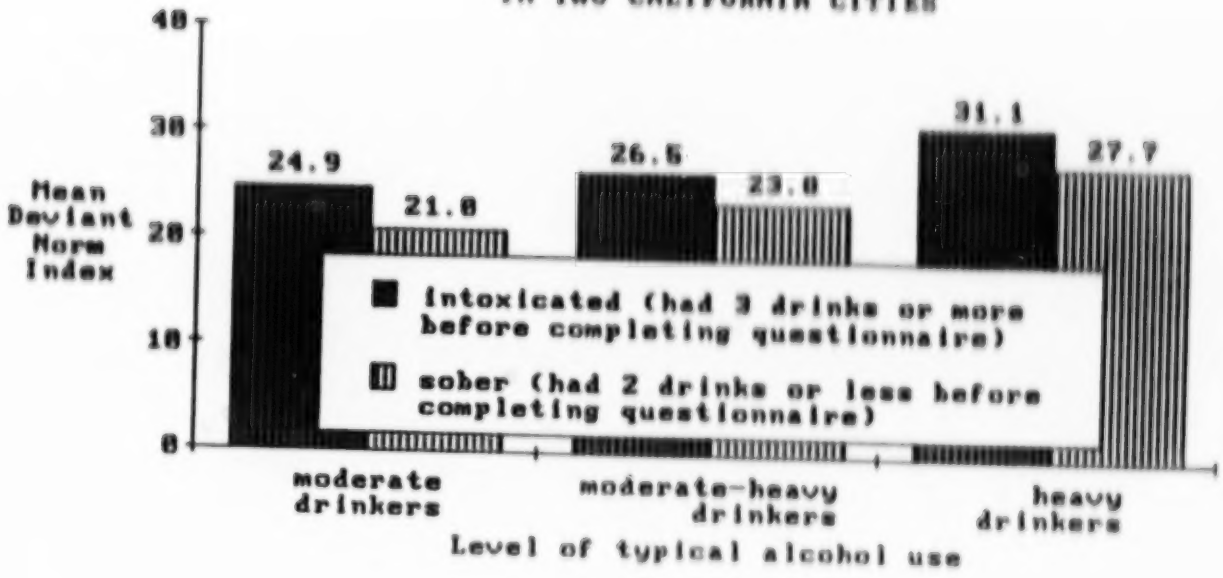


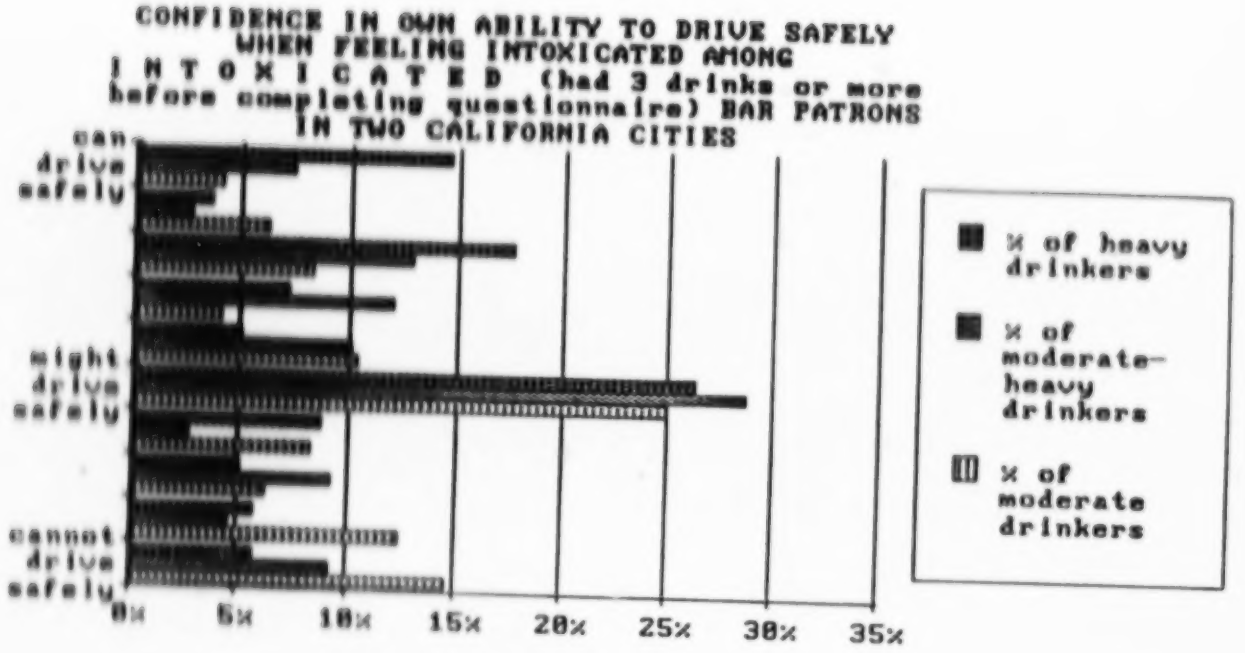
FIGURE 3

DEVIANT NORM INDEX *
AMONG BAR PATRONS
IN TWO CALIFORNIA CITIES



* The Deviant Norm Index is based upon six questions that indicate a respondent consumes alcohol under socially unacceptable and potentially hazardous circumstances. A score of 38 (out of a possible 68) indicates moderate deviance.

FIGURE 4


CONFIDENCE IN OWN ABILITY TO DRIVE SAFELY
WHEN FEELING INTOXICATED AMONG
I N T O X I C A T E D (had 3 drinks or more
before completing questionnaire) BAR PATRONS
IN TWO CALIFORNIA CITIES
can drive safely
might drive safely
cannot drive safely
0% 5% 10% 15% 20% 25% 30% 35%
% of heavy drinkers
% of moderate-heavy drinkers
% of moderate drinkers

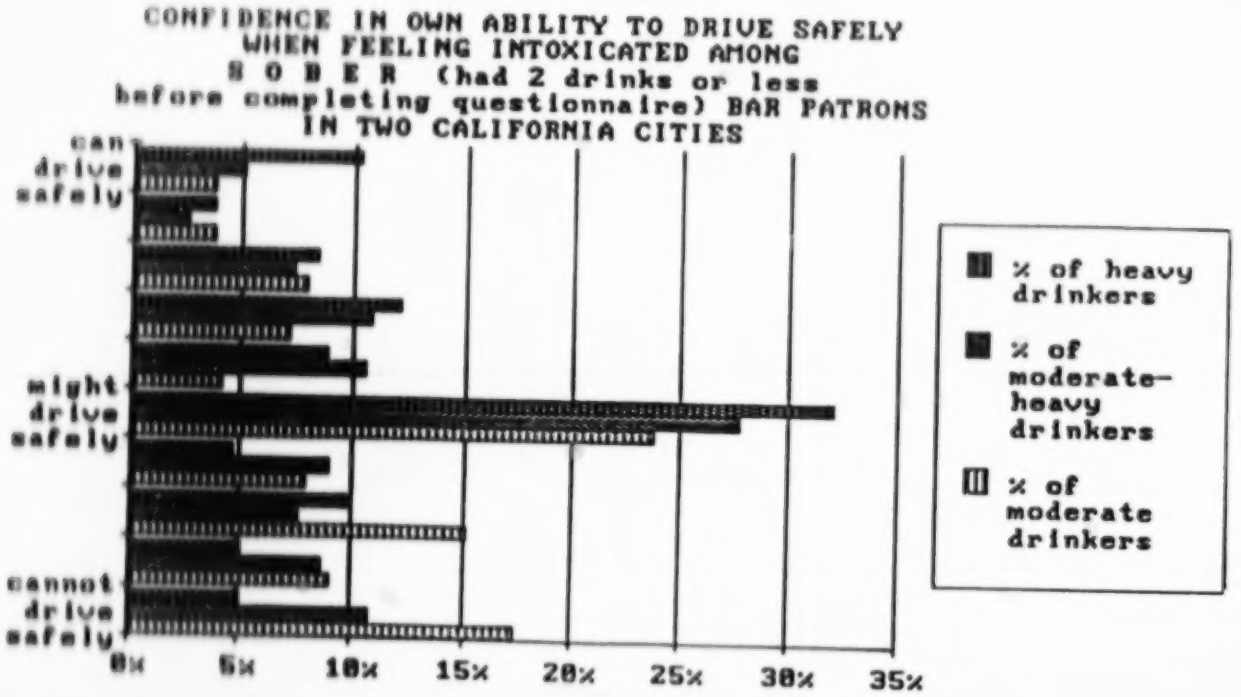
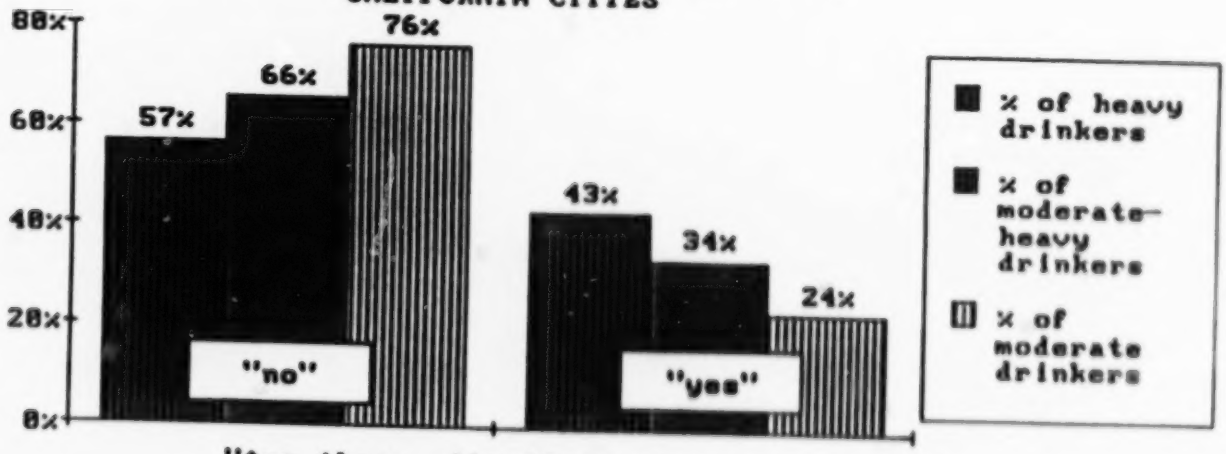

CONFIDENCE IN OWN ABILITY TO DRIVE SAFELY
WHEN FEELING INTOXICATED AMONG
S O B E R (had 2 drinks or less
before completing questionnaire) BAR PATRONS
IN TWO CALIFORNIA CITIES
can drive safely
might drive safely
cannot drive safely
0% 5% 10% 15% 20% 25% 30% 35%
% of heavy drinkers
% of moderate-heavy drinkers
% of moderate drinkers

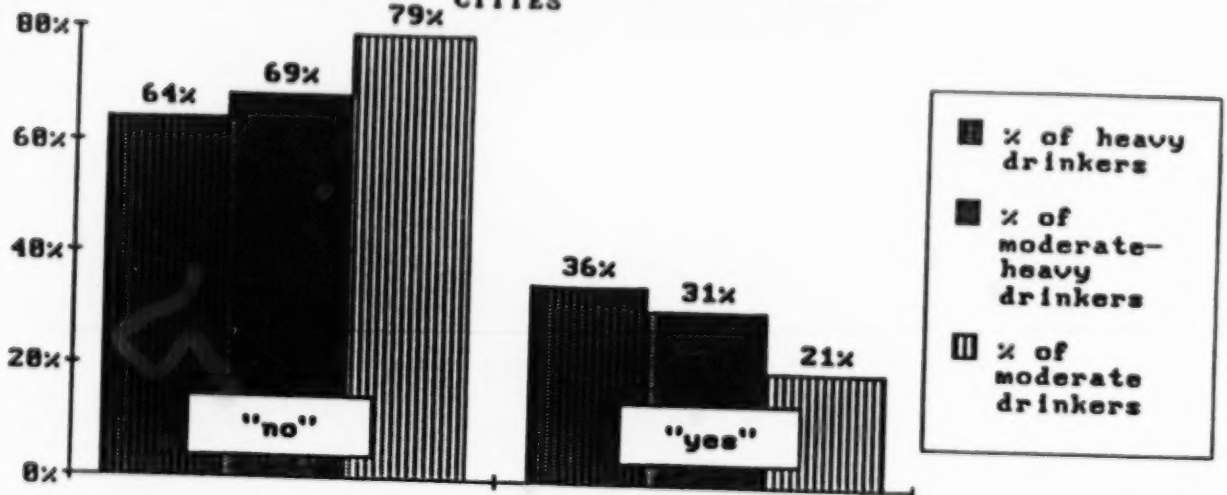
FIGURE 5

ACCEPTABILITY OF DRIVING WHEN FEELING INTOXICATED AMONG BAR PATRONS IN TWO CALIFORNIA CITIES



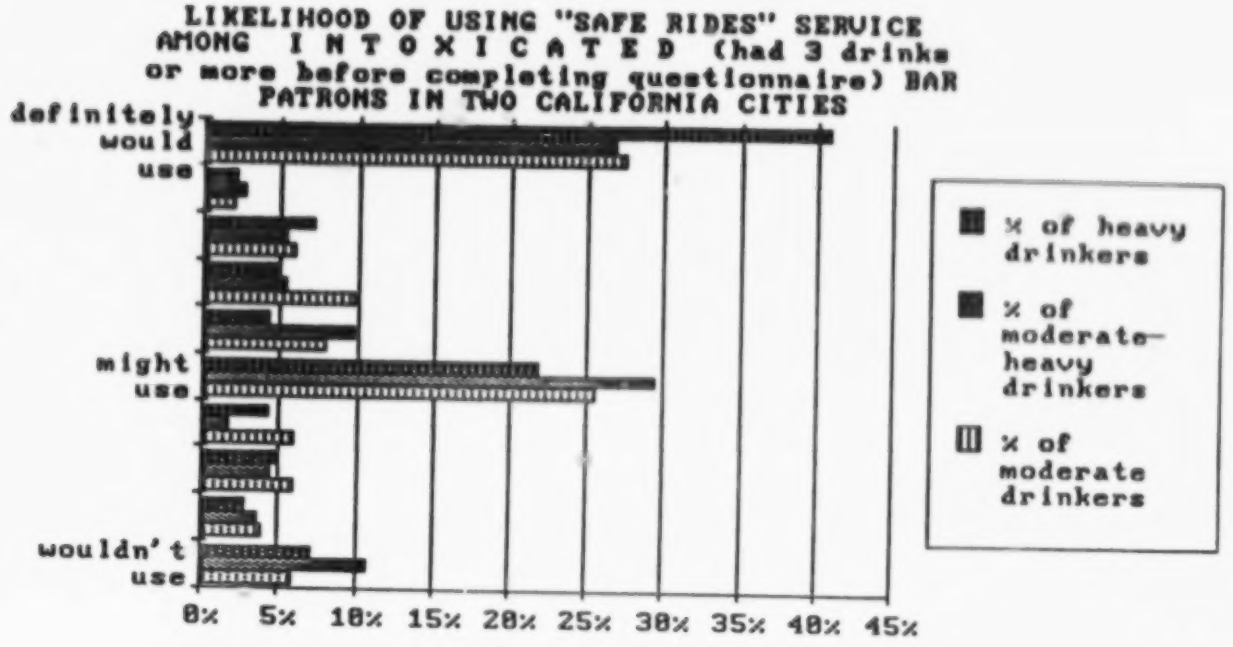
"Are there situations you can think of where it's O.K. to drive when you are feeling intoxicated?"

ACCEPTABILITY OF DRIVING AFTER HAVING TAKEN DRUGS AMONG BAR PATRONS IN TWO CALIFORNIA CITIES



"Are there situations you can think of where it's O.K. to drive when you have been using marijuana or other drugs?"

FIGURE 6


LIKELIHOOD OF USING "SAFE RIDES" SERVICE
AMONG I N T O X I C A T E D (had 3 drinks
or more before completing questionnaire) BAR
PATRONS IN TWO CALIFORNIA CITIES
definitely would use
might use
wouldn't use
0% 5% 10% 15% 20% 25% 30% 35% 40% 45%
% of heavy drinkers
% of moderate-heavy drinkers
% of moderate drinkers

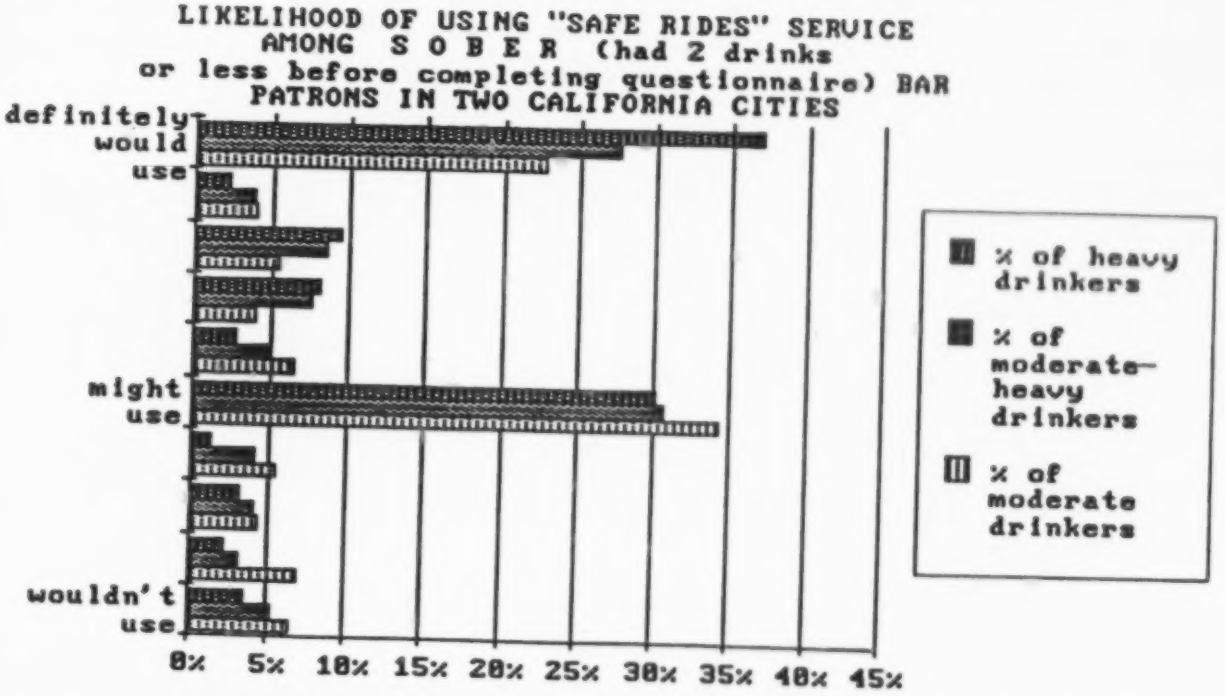
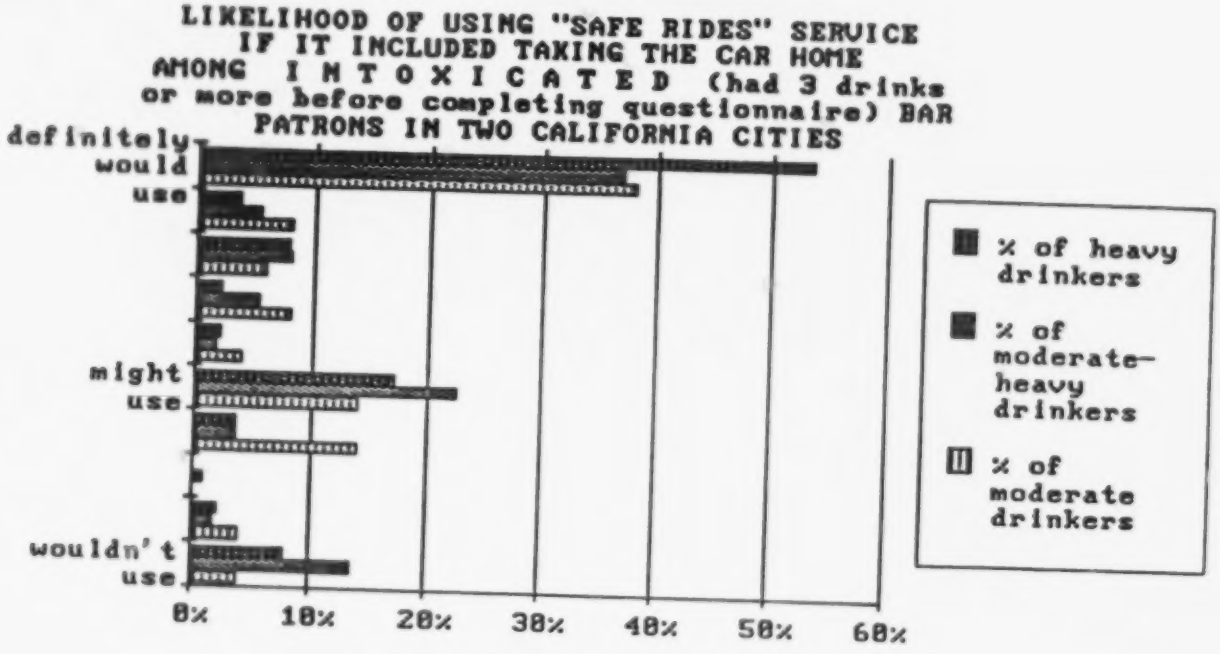
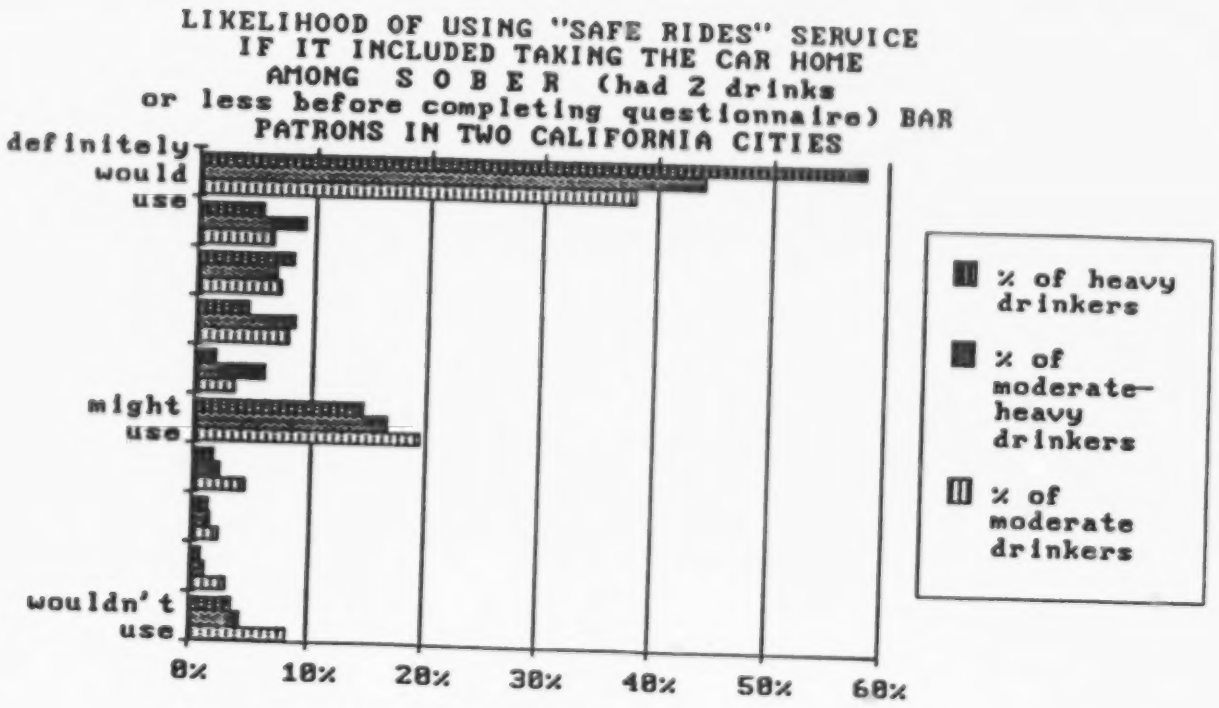

LIKELIHOOD OF USING "SAFE RIDES" SERVICE
AMONG S O B E R (had 2 drinks
or less before completing questionnaire) BAR
PATRONS IN TWO CALIFORNIA CITIES
definitely would use
might use
wouldn't use
0% 5% 10% 15% 20% 25% 30% 35% 40% 45%
% of heavy drinkers
% of moderate-heavy drinkers
% of moderate drinkers

FIGURE 7


LIKELIHOOD OF USING "SAFE RIDES" SERVICE
IF IT INCLUDED TAXING THE CAR HOME
AMONG I N T O X I C A T E D (had 3 drinks
or more before completing questionnaire) BAR
PATRONS IN TWO CALIFORNIA CITIES
definitely would use
might use
wouldn't use
0%
10%
20%
30%
40%
50%
60%
% of heavy drinkers
% of moderate-heavy drinkers
% of moderate drinkers


LIKELIHOOD OF USING "SAFE RIDES" SERVICE
IF IT INCLUDED TAXING THE CAR HOME
AMONG S O B E R (had 2 drinks
or less before completing questionnaire) BAR
PATRONS IN TWO CALIFORNIA CITIES
definitely would use
might use
wouldn't use
0%
10%
20%
30%
40%
50%
60%
% of heavy drinkers
% of moderate-heavy drinkers
% of moderate drinkers